

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A process for precision-machining a cylindrical inner surface, in particular a cylinder bearing surface, in which comprising:

subjecting the cylindrical inner surface ~~is subjected~~ to at least one preliminary honing step and a precision-honing step, characterized wherein

- ~~in that~~ the cylinder bearing surface has material of different hardnesses in the axial direction,
- ~~in that~~ the preliminary honing step produces a cone (11) in the cylindrical inner surface, in such a way in that cone (11) widens out from a harder region (4) toward a softer region (6), and
- in the subsequent precision-honing step, the cone (11) is compensated for again in the harder region (4) to produce a cylindrical inner surface, while the cone (11) is retained in the softer region (6).

2. (currently amended) The process as claimed in claim 1, characterized in that wherein the cone (11) of the cylindrical inner surface is produced by a honing stone (8) which runs conically with respect to the said inner surface.

3. (currently amended) The process as claimed in claim 1, ~~characterized in that wherein~~ the cone (11) is produced by adjusting the honing parameters.
4. (currently amended) The process as claimed in claim 3, ~~characterized in that wherein~~ the cone (11) is produced by adjusting the advance (V) of a honing tool (7') in the axial direction (9) and/or by adjusting the contact pressure (P) of the honing tool (7') against the cylindrical inner surface.
5. (currently amended) The process as claimed in claim 1 one of claims 1 to 4, ~~characterized in that wherein~~ a honing tool (18) is used with different types of honing stones (20, 22) which are deployed selectively for the preliminary honing step or precision-honing step or which are deployed selectively for different regions (4, 6) of the cylindrical inner surface.
6. (currently amended) The process as claimed in claim 1 one of claims 1 to 5, ~~characterized in that wherein~~ the cone (11) is introduced over a length (10) of from 20 mm to 200 mm in the axial direction (9), and a change (12) in the radius of the cylindrical inner surface of from 10 μ m to 100 μ m is established over this region.

7. (currently amended) The process as claimed in claim 1 ~~one of claims 1 to 6~~, characterized in that wherein a second, opposite cone (30) is introduced into the softer region (6), so that a convex shape (28) is established in the softer region (6).